

PATENT APPLN. NO. 10/563,125
RESPONSE UNDER 37 C.F.R. §1.111

PATENT
NON-FINAL

REMARKS

Claims 131 and 132 have been rewritten in independent form (as kindly suggested on page 7 of the Action) to avoid the objection to these claims as being dependent on a rejected base claim. PTO-2038 in an amount of \$930.00 is submitted herewith for the fee (\$440.00) for two excess independent claims and the fee (\$490.00) for a two-month extension of the response period to the Action.

Referring to the Action, claims 126 and 129-132 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Pernak et al., (identified as "RN 151263-00-2, retrieved from CAPLUS on November 3, 2009" in the Notice of References Cited) ("Pernak"), in view of Matsumoto et al., *Electrochemical Society Proceedings*, Vol. 99-41, 2000, 186-192 (D2) ("Matsumoto").

The Office identifies the compound of Pernak and the compounds of the present invention as homologs. However, the compounds are not true homologs. Homologs are compounds which differ regularly by the successive addition of the same chemical group, e.g., by -CH₂- groups. (See MPEP § 2144.09(II)). Therefore, the issue raised by the rejection under 35 U.S.C. § 103(a) is whether the structural similarity between the compound of Pernak and the compounds of the present invention is sufficiently close that a person of ordinary skill in the art would expect the compounds to

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possess similar properties. More specifically, the issue is whether the different anions of the compounds would be expected to impart similar properties to the compounds.

The Office has the initial burden of showing an expected similarity of properties of the compound of Pernak in which the anion is Cl^- and the same compound in which the anion is BF_4^- or $\text{N}(\text{CF}_3\text{SO}_2)_2^-$. The Office has not satisfied this burden.

The Office cites Matsumoto as teaching the use of a BF_4^- anion or a $\text{N}(\text{CF}_3\text{SO}_2)_2^-$ anion in quaternary ammonium salts and, based on this limited teaching and the fact that Pernak teaches a quaternary ammonium salt, takes the position that one of ordinary skill in the art would have found it obvious to combine Pernak and Matsumoto to prepare the compound of the present invention where R^1 is methyl and R^2 is ethyl and X is BF_4^- or $\text{N}(\text{CF}_3\text{SO}_2)_2^-$ (apparently with the expectation that the compound would have similar properties to the compound of Pernak).

Matsumoto, however, does not teach an equivalence between BF_4^- and $\text{N}(\text{CF}_3\text{SO}_2)_2^-$ anions and Cl^- anion in any quaternary ammonium salts. Therefore, Matsumoto cannot logically support a conclusion that these anions would provide equivalent properties in the different quaternary ammonium salts of Pernak (Matsumoto does not disclose quaternary ammonium salts which are pyrrolidinium salts as in

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Pernak), which compounds also have a different utility than the salts of Matsumoto.

For this reason alone, the combination of Pernak and Matsumoto is insufficient to support a case of *prima facie* obviousness of the claims of the present application.

Notwithstanding that the combination of Pernak and Matsumoto does not support a case of *prima facie* obviousness of the claims of the present application, applicants are submitting herewith a Declaration (under 37 C.F.R. § 1.132) of one of the applicants, Hiroaki TOKUDA, which shows that the compounds of the present invention have materially different properties as compared to the compound of Pernak. Specifically, the data show that the compounds of the present invention as recited in claim 126 have unexpectedly larger voltage in oxidation potential and reduction potential as compared to the compound of Pernak and, hence, are unexpectedly superior in electrochemical stability.

The data of the declaration rebut the position of the Office that the compounds of the present invention would be expected to have similar properties to the compound of Pernak and rebut any *prima facie* obviousness alleged by the Office to be supported by the combination of Pernak and Matsumoto.

Withdrawal of the 35 U.S.C. § 103(a) rejection is believed to

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be in order and is respectfully requested.

The Office has maintained the provisional obviousness-type double patenting (ODP) rejection of claims 126-132 over claims 1-4 of copending Application No. 11/795,036 and claims 1 and 2 of copending Application No. 11/795,030.

Applicants again respectfully request that the ODP rejection be held in abeyance pending the determination of allowable subject matter in at least one of the applications.

The foregoing is believed to be a complete and proper response to the Office Action dated November 16, 2009.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension and any additional required fees may be charged to Deposit Account No. 111833.

Respectfully submitted,
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Attachment: Declaration (37 C.F.R. § 1.132) of Hiroaki TOKUDA